

### **REMARKS/ARGUMENTS**

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 25, 26, 29-32, 64, 65 and 67-71 are presently pending in this application.

In the outstanding Office Action, Claims 25, 26, 29, 64, 69, and 71 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inagaki et al. (U.S. Patent 5,837,155) in view of Wroe et al. (U.S. Patent 4,994,903); Claims 30-32, 67, 68 and 70 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inagaki et al. and Wroe et al., and further in view of Brandli et al. (U.S. Patent 5,227,012); and Claim 65 was rejected under 35 U.S.C. §103(a) as being unpatentable over Inagaki et al. and Wroe et al., and further in view of Misfeldt (U.S. Patent 3,972,755).

Briefly, Claim 25 is directed to a multilayer printed circuit board and recites: "a resin substrate having a first surface and a second surface; a first resin insulating layer formed over at least one of the first and second surfaces of the resin substrate, the first resin insulating layer comprising a thermosetting polyolefin resin; a lower metal layer formed on the first resin insulating layer and being flat and level; and a conductor circuit comprising a metal and formed on the lower metal layer, wherein said lower metal layer has a same pattern as said conductor circuit and comprises at least one metal selected from the group consisting of metals of the 4th through 7th periods in Group 4A through Group IB of the long-form periodic table of the elements, Al, and Sn, excluding Cu." By providing such a lower metal layer, the conductor circuit more securely stay on the thermosetting polyolefin resin insulating layer without roughening its surface for adhesion, thereby allowing the conductor circuit itself to be free of any roughened portions. Consequently, the conductor circuit can transmit a high frequency signal without transmission delay.

The Office Action states that “Inagaki fails to disclose a resin insulating layer comprising a thermosetting polyolefin resin and a conductor circuit comprising Al,” but asserts that “Wroe discloses a resin insulating layer comprising a thermosetting polyolefin that can be substitute for an epoxy resin and a conductor circuit comprising Al that can be substitute for copper,” and that “It would have been obvious ... to incorporate an insulating layer made of polyolefin with the device of Inagaki ... while attached to an Al conductor circuit as taught by Wroe.” Applicants respectfully traverse the outstanding rejections based on the following discussions.

First, regarding the “first resin insulating layer ... comprising a thermosetting polyolefin resin” recited in Claim 25, the Inagaki et al. insulating layer is a composition made up of epoxy resin, a monomer or an oligomer having an unsaturated double bond, an epoxy resin curing agent, and a photopolymerization initiator, so as to achieves high interlaminar adhesive strength and a uniform thickness.<sup>1</sup> It is thus believed that the epoxy resin is essential in the composition for the Inagaki et al. insulating layer and that the mere substitution of the epoxy resin with thermosetting polyolefin would not lead the composition to the likelihood of success for the high interlaminar adhesive strength and uniform thickness required by the Inagaki et al. insulating layer. As such, the proposed substitution of polyolefin is believed to be a product of hindsight guided by Applicants’ disclosure and the obviousness rejection based on such a substitution is believed to lack a proper motivation for modification.

Regarding the “lower metal layer” recited in Claim 25, it is “flat and level ..., wherein said lower metal layer has a same pattern as said conductor circuit and comprises at least one metal selected from the group consisting of metals of the 4th through 7th periods in Group 4A through Group IB of the long-form periodic table of the elements, Al, and Sn, excluding

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<sup>1</sup> See, for example, Inagaki et al., column 2, lines 32-47.

Cu.” As discussed in the previous response, rather than “flat and level” as recited in Claim 25, according to Inagaki et al., the copper conductor is roughened such that its roughened surface intimately laminates to the insulating resin layer when they are heated and pressed with a roller.<sup>2</sup> Furthermore, according to Wroe et al., circuit paths 14 are merely “a thin layer 26 of a metal such as copper, aluminum or copper-clad aluminum ...,” and may correspond to the “conductor circuit” recited in Claim 25 but not the “lower metal layer” which provides good adhesion to the thermosetting polyolefin resin insulating layer and also upon which the “conductor circuit” is formed. Thus, it is believed that Inagaki et al. and Wroe et al. are structurally distinguishable, and the proposed substitution of Al is also believed to be a product of hindsight guided by Applicants’ disclosure. The obviousness rejection based on such a substitution is therefore believed to lack a proper motivation for modification.

The other references, Brandli et al. and Misfeldt, are not believed to teach or suggest the first resin insulating layer and lower metal layer as recited in Claim 25, and the structure recited in Claim 25 is believed to be also distinguishable from both Brandli et al. and Misfeldt.

Therefore, Inagaki et al., Wroe et al., Brandli et al. and Misfeldt are not believed to disclose the first resin insulating layer and lower metal layer as recited in Claim 25, and their teachings even combined are not believed to render the structure recited in Claim 25 obvious.

For the foregoing reasons, Claim 25 is believed to be allowable. Furthermore, since Claims 26, 29-32, 64, 65 and 67-71 depend directly or indirectly from Claim 25, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 26, 29-32, 64, 65 and 67-71 are believed to be allowable as well.

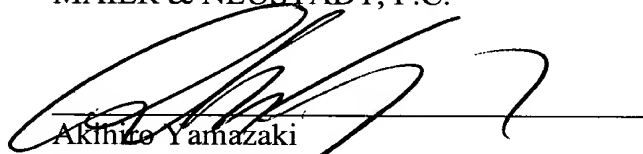
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<sup>2</sup> See, for example, Inagaki et al., column 11, lines 12-17.

In view of the discussions presented above, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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